APPENDIX - A

List of Paper Publications and Presentations

1. "*Automatic Detection of ECG R-R interval using Discrete Wavelet Transformation*", Published in International Journal of Computer Science and Engineering (IJCSE), ISSN: 0975-3397, Vol.3, No.4, pp.1598-1604, April-2011.

2. "*Decision Support System for Congenital Heart Disease Diagnosis based on Signs and Symptoms using Neural Networks*", Published in International Journal of Computer Applications (IJCA), ISSN: 0975-8887, Vol.19, No.6, pp.6-12, April-2011.

3. **"***Malaria Diagnosis using Neural Networks*", Presented in International Conference on Quantitative Methods, Operations & Information Technology (ICQMOIT-2008) , Oct 24th and 25th, 2008 at Hyderabad and Published in The Journal of Computing, International Journal (TJC), ISSN: 0976-6928, Vol.2, No.2, pp.18-24, Feb-2011.

4. "*Congenital Heart Disease Diagnosis Classification based on Signs & Symptoms using Neural Networks*", Presented in National Conference on Computing and Communication Technologies (NC3T10-2010) and Published in Conference Proceedings, ISBN:978-81-908497-9-1, pp163-171, Oct 6th and 7th, 2010 at Tirupati.

5. "*A Survey of Heart Disease Diagnosis using Neural Networks*", Presented in National Conference on Intelligent Systems and Communications (NCISC-2009) and Published in Conference Proceedings, ISBN:978-81-908497-4-6,pp.308-316, Dec 2nd and 3rd, 2009 at Tirupati.

6. "*Congenital Heart Disease Diagnosis using Neural Networks*", Presented in International Conference on Operations Research Society of India (ORSI-2008), Dec 15th to 17th, 2008 at Tirupati.

APPENDIX - B

GLOSSARY OF TERMS FOR CONGENITAL HEART SEPTUM DEFECTS

Abnormal	Not normal. i.e Deviating from the usual structure or position or condition or behavior.
Aneurysm	A ballooning of the wall of a blood vessel or of the heart.
Aorta	The largest artery in the body, the aorta arises from the left ventricle of the heart, goes up (ascends) a little ways, bends over (arches), then goes down (descends) through the chest and through the abdomen to where ends by dividing into two arteries called the common iliac arteries that go to the legs.
Aortic Arch	Topmost part of the aorta from which the head, neck and arm arteries arise.
Aortic Stenosis	A narrowing which restricts red blood from moving from the left ventricle into the aorta.
Aortic valve	The valve between the left ventricle and the aorta.
Arrhythmia	Out of rhythm - the heart is beating too fast, too slowly, or irregularly.
Artery	A vessel that carries blood high in oxygen content away from the heart to the farthest reaches of the body
Atresia	Absence of a normal opening or failure of a structure to be tubular.
Atria	Plural of atrium. Blood is returned from the lungs, to the left atrium, from where it is pumped into the left ventricle and then round the body, or from the body, to the left atrium be pumped into the right ventricle and then to the lungs.
Atrial	Pertaining to the atria, the upper chambers of the heart, as in atrial fibrillation and atrial septal defect.
Atrial Septal Defect	A hole in the wall between the atria.
Atrioventricular Septal Defect (AVSD)	A hole between the atria (atrial septal defect, or ASD), a hole between the ventricles (ventricular septal defect or VSD) and a single valve instead of a tricuspid valve and a mitral valve.
Atrium	An upper chamber of the heart where blood collects before passing to the ventricle.
Bicuspid	Having 2 cusps or leaflets.
Birth defect	Any defect present in a baby at birth, irrespective of whether the defect is caused by a genetic factor or by prenatal events

	that are not genetic.
Blood pressure	The blood pressure is the pressure of the blood within the arteries. It is produced primarily by the contraction of the heart muscle. It's measurement is recorded by two numbers. The first (systolic pressure) is measured after the heart contracts and is highest. The second (diastolic pressure) is measured before the heart contracts and lowest. A blood pressure cuff is used to measure the pressure. Elevation of blood pressure is called "hypertension".
Blue Blood	Blood which is returning from the body to the heart and so pumped to the lungs, where it will pick up oxygen and become red blood.
Bradycardia	Slow heart beat.
Breathing	The process of respiration, during which air is inhaled into the lungs through the mouth or nose due to muscle contraction and then exhaled due to muscle relaxation.
Carbon dioxide	A colorless, odorless nonflammable produced in respiration, and given off by the tissue to the blood.
Cardiac	Having to do with the heart.
Cardiologist	A doctor who specializes in treating heart disorders.
Cardiopulmonary	Pertaining to the heart and lungs
Cardiovascular	The circulatory system comprising the heart and blood vessels which carries nutrients and oxygen to the tissues of the body and removes carbon dioxide and other wastes from them.
Chest Pain	There are many causes of chest pain. One is angina which results from inadequate oxygen supply to the heart muscle. Angina can be caused by coronary artery disease or spasm of the coronary arteries. Chest pain can also be due to a heart attack (coronary occlusion) and other important diseases such as, for example, dissection of the aorta and a pulmonary embolism. Do not try to ignore chest pain and "work (or play) though it." Chest pain is a warning to seek medical attention.
Clubbing	Rounded swelling of the end's of the fingers or toes.
Coarctation of the Aorta	Narrowing in the aorta - the artery taking blood from the heart to the body.
Congenital heart disease	A malformation of the heart or the large blood vessels near the heart. The term "congenital" speaks only to time, not to causation; it means "born with" or "present at birth".
Congenital	Present at birth. A condition that is congenital is one that is present at birth. There are numerous uses of "congenital" in

	medicine. There are, for example, congenital abnormalities.
Congenital	Describes a condition which is present at birth.
Congestive heart failure	Failure of the heart to maintain adequate circulation of blood.
Coronary	Encircling in the manner of a crown; especially to the arteries of the heart,and by extension, to pathologic involvement of them.
Coronary arteries	The vessels that supply the heart muscle with blood rich in oxygen. They are called the coronary arteries because they encircle the heart in the manner of a crown.
Coronary artery disease (CAD)	Although a number of disease processes other than atherosclerosis can involve coronary arteries, in this guideline the term CAD refers to the atherosclerotic narrowing of the major epicardial coronary arteries.
Coronary stenosis	Narrowing or constriction of any arteries, orifices or chambers leading into or from the heart.
Cross-section	In anatomy, a cross-section is a transverse cut through a structure or tissue. The opposite of a cross-section is a longitudinal section. By analogy, a study may be cross-sectional or longitudinal.
Cyanosis	A bluish color of the skin and the mucous membranes due to insufficient oxygen in the blood. For example, the lips may show cyanosis. Cyanosis can be evident at birth, as in a "blue baby" who has a heart malformation that permits blood that is not fully oxygenated to enter the arterial circulation. Cyanosis can also appear at any time later in life.
Cyanotic	Showing cyanosis (bluish discoloration of the skin and mucous membranes due to not enough oxygen in the blood).
Dextra Cardia	The heart is on the right, rather than the left side of the chest.
Diagnosis	The identification of an illness.
Diastole	The time period when the heart is in a state of relaxation and dilatation (expansion).
Diffusion	The spontaneous mixing of the molecules of two or more substances from an area of high concentration to low, resulting from random thermal motion: it's rate is proportional to the concentrations of the substances and increases with the temperature.
Digoxin	A medicine given to increase the strength, or slow down the rate, of the contraction of the heart.
Dilated Cardiomyopathy	A condition in which the heart becomes enlarged and weak, sometimes because of a virus.

Down syndrome	A common chromosome disorder due to an extra chromosome number 21. Down syndrome causes mental retardation, a characteristic face, and multiple malformations. Down syndrome is a relatively common birth defect. The chromosome abnormality affects both the physical and intellectual development of the individual.
Dyspnea	**S**hortness of breath, difficulty breathing.
ECG	Short for electrocardiogram - for measuring the electrical activity of the heart.
Echocardiography	The process of reflecting ultrasound doppler signals off the heart and surrounding anatomical structures to visualize cardiac activity and structure, and acilitate diagnosis.
Electrocardiogram	A recording of the electrical activity of the heart.
Endocarditis	An infection of the lining of the heart.
Fatigue	A condition characterized by a lessened capacity for work and reduced efficiency of accomplishment, usually accompanied by a feeling of weariness and tiredness. Fatigue can be acute and come on suddenly or chronic and persist.
Genetic	Having to do with genes and genetic information.
Heart failure	Inability of the heart to keep up with the demands on it and, specifically, failure of the heart to pump blood with normal efficiency.
Heart murmur	An extra abnormal heart sound usually detected while listening to the heartbeat with a stethoscope. Heart murmurs may be harmless or may signal a problem, such as an abnormality of the heart valves or a congenital (present at birth) heart disease.
Heart murmur	A murmur is a sound made by blood moving round the heart: sometimes but not always this could be caused by a heart defect.
Heart valves	There are four heart valves. All are one-way valves. Blood entering the heart first passes through the tricuspid valve and then the pulmonary valve. After returning from the lungs, the blood passes through the mitral (bicuspid) valve and exits via the aortic valve.
Hypertension	High blood pressure, defined as a repeatedly elevated blood pressure exceeding 140 over 90 mmHg -- a systolic pressure above 140 with a diastolic pressure above 90.
Hypertrophy	Enlargement or overgrowth of an organ or part due to increase in seze of its constituent cells.
Infection	The growth of a parasitic organism within the body. A person with an infection has another organism (a "germ") growing within him, drawing its nourishment from the person.

Ischaemia	Reducyion in organ function as a result of reduced blood supply.
Ischemic heart disease	Aform of heart disease whose primary manifestations result from myocardial ischemia due to atherosclerotic CAD.
Left atrium	The upper right chamber of the heart. The left atrium receives oxygenated blood from the lungs and pumps it down into the left ventricle which delivers it to the body.
Left ventricle	The left lower chamber of the heart that receives blood from the left atrium and pumps it out under high pressure through the aorta to the body.
Lungs	The lungs are a pair of breathing organs located with the chest which remove carbon dioxide from and bring oxygen to the blood. There is a right and left lung.
Mitral	Referring to the bicuspid valve separating the left atrium and ventricle to prevent back flow into the atrium during ventricular systole.
Mitral regurgitation	Abnormal systolic back flow of blood from the left ventricle into the left atrium, resulting from imperfect closure of the mitral valve.
Mitral stenosis	Mitral valvular stenosis;narrowing of the normal area of the mitral valve causing a pressure drop across the valve during left ventricular filling.
Mitral Valve Stenosis	The Mitral Valve in the heart opens to let oxygenated blood to pass into the left ventricle, and then closes as it is pumped into the aorta and so around the body. Stenosis means that it is narrow, and therefore not allowing enough blood through and causing a backflow to the lungs.
Murmur	A sound due to vibrations from the flow of blood through the heart or great vessels. A murmur may be innocent and be of no significance. Or it may be pathologic and reflect disease. A murmur is usually heard with a stethoscope.
Muscle	Muscle is the tissue of the body which primarily functions as a source of power.
Myocardial infarction	Damage to the heart muscle caused by occlusion of one or more of the coronary arteries.
Myocardial ischemia	Condition in which oxygen delivery to and waste removal from the myocardium falls below normal levels with oxygen demand exceeding supply.
Myocardium	The muscular wall of the heart located between the inner endocardial layer and the outer epicardial layer.

Oedema	Extra fluid accumulating in the tissue.
Oxygen	A colorless, odorless and tasteless gas that makes up about 20% of the air we breathe (and at least half the weight of the entire solid crust of the earth) and which combines with most of the other elements to form oxides. Oxygen is essential to human, animal and plant life.
Oxygenator	An artificial device that functions like the lung to exchange oxygen and carbon dioxide with the blood.
PDA	Patent or persistent ductus arteriosus - a passage used for circulation before the baby is born remains open, instead of closing shortly after birth. This causes red blood to return from the aorta back to the lungs.
Pediatric	Pertaining to children.
Pericardium	Lining bag in which the heart sits.
Pulmonary	Referring to the lung or the bicuspid valve separating the right ventricle and the pulmonary artery to prevent back flow into the ventricular during diastole.
Pulmonary artery	The blood vessel which takes blood from the heart to the lungs.
Pulmonary atresia	Small or undeveloped pulmonary valve.
Pulmonary edema	Condition, usually acute, but sometimes chronic, where fluid builds up in the lungs. This often occurs as a response to left ventricular failure in ischemic heart disease, hypertension, or aortic valve disease.
Pulmonary hypertension	High pressure of blood moving into the lungs.
Pulmonary stenosis	A narrowing between the right ventricle and the lung artery.
Red blood	Blood which has picked up oxygen from the lungs and travel through the left side of the heart to be pumped around the body.
Respiration	The chemical processes that occur at the tissue cellular level converting oxygen and water to heat, ATP and carbon dioxide.
Right atrium	The right upper chamber of the heart. The right atrium receives deoxygenated blood from the body through the vena cava and pumps it into the right ventricle which then sends it to the lungs to be oxygenated.

Right ventricle	The lower right chamber of the heart that receives deoxygenated blood from the right atrium and pumps it under low pressure into the lungs via the pulmonary artery.
Septum	A word borrowed from the Latin "saeptum" meaning a "dividing wall or enclosure".
Shortness of breath	Difficulty in breathing, which is medically referred as dyspnea. Shortness of breath can be caused by respiratory (breathing passages and lungs) or circulatory (heart and blood vessels) conditions.
Shunt	A natural or artificially created passageway between two parts of the heart.
Stenosis	Narrowing.
Systole	Referring to the period of time during contraction of the ventricle(s).
Tachycardia	Fast heart beat.
Tetralogy of fallot (TOF)	Congenital heart condition characterized by; 1. over riding aorta, 2. VSD, 3. RV outflow tract obstruction and, 3. PDA, if ASD is present the condition is called a "pentology of fallot".
Tired	A feeling of a lessened capacity for work and reduced efficiency of accomplishment, usually accompanied by a sense of weariness and fatigue.
Tricuspid	Having three flaps or cusps. The valve that is called the tricuspid valve is situated between the right atrium and right ventricle and permits blood to flow only from the atrium into the ventricle. The aortic valve in the heart also has three cusps.
Tricuspid atresia	Small or undeveloped tricuspid valve.
Tricuspid valve	The valve between the right atrium and the right ventricle.
Valve	Structure which allows blood flow in one direction and prevents leakage.
Vascular	Pertaining to blood vessels or indicative of a copious blood supply.
Vein	A blood vessel that carries blood toward the heart; veins usually carry deoxygenated blood.
Vena cava (e)	The large vein(s) collecting the venous return from the head, neck and shoulders (superior vena cava) and the legs and gut (inferior vena cava) draining into the right atrium of the heart.

Ventricle	A chamber of an organ. For example, the four connected cavities (hollow spaces) in the central portion of the brain and the lower two chambers of the heart are called ventricles.
Ventricular	Pertaining to the ventricles, the lower chambers of the heart, as in ventricular fibrillation and ventricular septal defect.
Ventricular Septal Defect (VSD)	A hole between the two ventricles- the pumping chambers of the heart.
Vessel	A tube in the body that carries fluids: blood vessels or lymph vessels.